Claims 1-74 (canceled)

(New)

75. A method for use in controlling the processing of components that are involved in *in vitro* fertilization (IVF), the method comprising:

- defining a matching set of two or more components to be involved in a common IVF process;
- assigning each component with a unique machine readable identification mark;
- providing on each component the unique machine readable identification mark assigned to said component; and
- reading the identification mark on each component, generating data indicative thereof; and analyzing the generated data to determine whether the identification marks of said components belong to said matching set or not.

76. The method of Claim 75, wherein two or more components to be involved in the IVF process include at least one component selected from a group consisting of a sperm donor entity, a sperm entity, an ova donor entity, an ova entity, an oocyte entity, a fertilized egg entity, an embryo entity, a recipient entity, holder entities, physicians, technicians and corresponding records or data files.

77. The method of Claim 75, wherein said matching set of components includes an embryo entity and a recipient entity.

78. The method of Claim 75, wherein said matching set of components includes a sperm entity and an oocyte entity.

79. The method of Claim 76, wherein the identification mark is an image readable mark.

80. The method of Claim 75, wherein the identification mark is readable by optically scanning the mark.

81. The method of Claim 75, wherein the identification mark is barcode.

82. The method of Claim 75, wherein said providing of the identification mark comprises attaching to the component a label carrying said identification mark.

83. The method of Claim 75, wherein at least one entity is within a holder and said providing of the identification mark comprises attaching to the holder a label carrying said identification mark.

84. The method of Claim 75, wherein said providing of the identification mark on the holder comprises printing said identification mark onto the holder.

85. The method of Claim 75, wherein said matching set of components includes a biological entity and a corresponding record or file.

86. The method of Claim 75, wherein said matching set of components includes a biological entity and a holder.

87. The method of Claim 75, wherein the unique machine readable identification mark assigned to each component of a matching set is different.

88. The method of Claim 75, wherein the unique machine readable identification marks assigned to the components of a matching set are the same.

89. A system for use in controlling the processing of biological entities, the system comprising:

- a support assembly for supporting at least one holder containing biological entities;

- an optical device operable to acquire an image of the holder and generating data indicative of at least an identification mark provided on the holder;
- a control system connectable to said optical system and operable to actuate the image acquisition and to analyze the data indicative of the acquired images, the control system having a memory utility for storing reference data representative of matching sets of biological entities' associated identification marks, and a processing utility preprogrammed to be response of said data indicative of the acquired images to analyze said data utilizing said reference data and identify whether the biological entities in at least two holders relate to a matching set or not.

90. A system for use in controlling the processing of biological entities, the system comprising:

- a supporting stage for supporting at least one holders containing a biological entity;
- an incubator unit for maintaining the biological entities under predetermined environmental conditions.
- an optical monitoring system operable to acquire images of the entities;
- a drive assembly operable to provide a desired relative displacement between said support stage at least a lens arrangement of said optical system, so as to enable bringing a selected holder to an imaging position.